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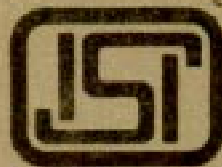
Indian Standard

GLOSSARY OF TERMS RELATING TO
TREATED FABRICS

(First Revision)

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NEW DELHI 110002

Indian Standard

GLOSSARY OF TERMS RELATING TO TREATED FABRICS (First Revision)

Treated Fabrics Sectional Committee, CETDC 3

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Indian Standard
GLOSSARY OF TERMS RELATING TO
TREATED FABRICS
(*First Revision*)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 7 November 1972, after the draft finalized by Treated Fabrics Sectional Committee had been approved by the Chemical Division Council, Mechanical Engineering Division Council and Textile Division Council.

0.2 This standard was first published in 1965. Based on the experience gained during the use of the standard, some of the definitions of terms have been revised. This glossary may require the user to choose some different terms than what have been used previously, and to place somewhat different interpretations on others, but it is hoped the *ultimate advantages* in doing so will outweigh any immediate disadvantages.

0.3 In preparing this standard, considerable assistance has been derived from the following publications:

BS 1755 : 1951 Glossary of terms used in the plastics industry. British Standards Institution.

BS 1755 : Part 1 : 1967 Glossary of terms used in the plastics industry: Part 1 Polymerization and plastics materials. British Standards Institution.

ASTM Designation : D123-71 Definitions of terms relating to textile materials. American Society for Testing and Materials.

0.4 Should any difference exist between the definitions given in this glossary and those in the standards for the individual materials, the latter shall prevail.

1. SCOPE

1.1 This standard prescribes the definitions of terms related to treated fabrics.

2. DEFINITIONS

A

Abraded Yarn — A continuous filament yarn in which the outer filaments have been purposely cut or abraded at intervals to bring about certain

degree of hairiness. Abraded yarns are usually plied with other yarns before using.

Abrasion — The wearing away of any part of a material by rubbing against another surface.

Accelerated Ageing — The phenomenon that results in change of characteristics of materials which occurs under condition of elevated temperature and humidity in air or oxygen.

Acetate, Modified — The acetate products composed principally of cellulose acetate.

Adherent Failure — The rupture of an adhesive bond, such that the separation appears to be within the adherent.

Adhesion — The state in which two surfaces are held together by interfacial forces which may consist of valency forces or interlocking action or both.

Adhesive — A substance capable of holding materials together by surface wetting and interfacial forces.

Adhesive Failure — The rupture of an adhesive bond such that the place of separation appears to be at the adhesive adherent interface.

Ageing — The phenomenon that results in change in characteristics of a material with time under stated conditions, which may be natural or accelerated.

Air Permeability — The volume of air in cubic centimetres passed per second through one square centimetre of the fabric under specified conditions.

Ambient Temperature — Temperature of the medium surrounding an object.

Antistatic Agent — A compound applied on textile to eliminate the retention of electrical charges by the fibre.

B

Back Sizing — A non-fibrous material, such as insoluble clays or gypsum, together with starches, gums, etc, added to fabric to increase its weight or to modify the appearance or feel of the fabric.

Bale — A compressed package of defined quantity of textile material in a form convenient for transit.

Basket Cloth — A fabric in which each group of two or more warp ends passes alternately over and under groups of two or more picks.

Bias-Cut — A material cut so that warp and weft threads make angles other than 90° with the edges.

Binder — A component of an adhesive composition which is primarily responsible for the adhesive forces which hold two bodies together.

Bitumen Felt — A woven or non-woven fabric impregnated with bitumen and treated by passage through the bituminous coating material and finally surface treated with talc, slate, mica, etc.

Bleaching — A process of improving (other than by scouring) the whiteness of fabrics from their grey state, by decolourizing them with or without removing colouring matter and extraneous substances.

Bleeding — The running of colour in fabrics during scouring, milling or crabbing; or the running of colour in fabrics from its dyed to undyed (or other dyed) parts during washing or dry cleaning. Fabrics that bleed may cause staining of white or other light coloured fabrics which come in contact with them.

Blister — The pockets of air, gas or any other gap on treated fabrics.

Blocking — An adhesion between touching layers of plastic, such as that which may develop under pressure during storage or use.

Bloom — A visible exudation or efflorescence on the surface of a coated material.

Boardy — A fabric having a stiff and harsh feel.

Book Cloth — A variety of cotton fabrics in plain weave used in book binding. They are usually coloured, heavily sized and embossed between hot rollers.

Box Mark — A widthwise fine line showing stained or injured weft due to the rubbing by shuttle when it rebounds from the box.

Brattice Cloth — A non-inflammable, fire-proof and rot-proof fabric. It is used in mines as wind-screens for ventilators.

Breakdown Voltage — The voltage required under specified conditions to puncture the dielectric when the electrodes are in contact with the material and the voltage increased at a specified rate.

Breaking Load — The load that develops the maximum tension in a specimen during a tensile test carried to rupture.

Breaking Strength — The maximum resultant internal force that resists rupture in a tensile test.

Broken End — A narrow warpwise void in a fabric caused by breaking of warp yarn during weaving (see Fig. 1).

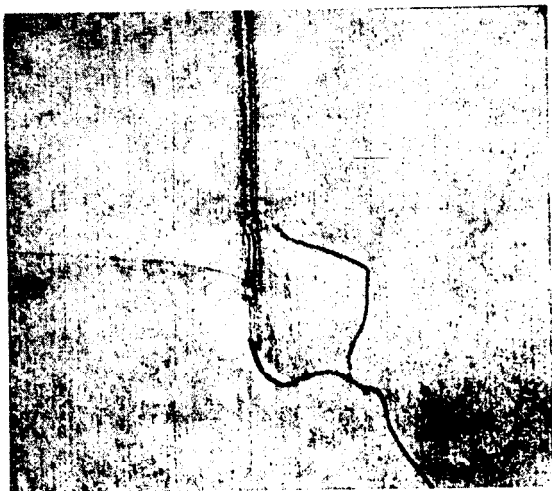


FIG. 1 BROKEN ENDS

Broken Pick — A defect in a fabric caused by breaking of weft threads.

Broken Twill — Any twill weave in which the move number is not constant with the result that the continuity of the twill line is broken.

Bubble — The internal void or trapped globule of air or other gas.

Buckram — A stiffened fabric used as underlining cloth for giving stiffness and shape to the garments.

Bulk Density — The density of a moulding material in loose form (granular, nodular, etc) expressed as a ratio of weight to volume.

Burlap — See Jute.

Bursting Strength — The ability of a material to resist rupture by pressure.

C

Calender — A machine comprised of at least three heated rollers, used to produce film and sheet material.

Calendering — A mechanical method done by rollers to provide glaze, glossiness, hardness, lustre, shine, and even embossed designs to fabrics. Calendering is usually done to impart a special finish to fabrics.

Calico — A generic term for plain weave fabric heavier than muslin.

Cambric — A light weight closely woven plain weave fabric usually given a slight stiffening.

Canvas — A strong, firm, plain or double-end plain cloth made with single or plied yarns. In this type of cloth the warp predominates and a feature of the heavier canvas is the very close packing of the warp which is highly crimped over a straight weft.

Carpet — A floor covering fabric having a pile surface made from yarn and woven by traditional methods, but currently also being produced with machines.

Chiffon — A plain and open weave lightweight fabric woven out of hard twisted yarn.

Circular-Knit Fabric — A fabric made in tubular form on a circular knitting machine.

Closed Assembly Time (in Adhesive Bonding) — The time between the assembling of adhesive-coated surfaces and the application of pressure.

Cloudy Cloth — A fabric with uneven shade caused by uneven dyeing, faulty finishing or bleaching or due to defects in the yarns.

Coated Fabric — A fabric which is coated, laminated, filled or impregnated with a suitable composition.

Coating

- a) The process of applying a thin layer of a material in the form of fluid or powder upon a substrate.

NOTE — Laminating is not considered coating.

- b) A thin layer of a material applied by a coating process.

Coating Compound

- a) A viscous solution or emulsion of high polymers, suitable for application to the surface of fabrics by a spread-coating process.
- b) A polymer usually plasticized and without solvent, suitable for application by calendering, knife-coating, roller-coating or dipping with a calender coater to fabrics.
- c) A solution of synthetic resin of any type suitable for application to fabrics by spraying, dipping or brushing.

Cockling — The curliness or crimpiness in fabrics, due to irregular shrinkage in milling or scouring when yarns of different counts, quality, or with varying tensions are woven together.

Cold Bend Test — A test used to assess the flexibility of treated fabrics at low temperatures. It is carried out by bending a specimen to a specified radius while maintaining at a specified subnormal temperature. The test temperature is based upon consideration of the conditions under which the material is intended to be used.

Cold Crack Temperatures — The cold crack temperature of a treated fabric is the temperature at which the test specimen cracks when bent flat under defined and reproducible conditions.

Cold Setting — The property of curing at room temperature in the presence of curing agent.

Colour Blurred — A dyed fabric having a patchy appearance.

Compound — The intimate admixture of a polymer or polymers with other ingredients, such as fillers, plasticizers, stabilizers, catalysts, colourants, etc.

Condition — To bring a sample or specimen to moisture equilibrium with a specified atmosphere.

Consignment — A material of a specified type and quality delivered to one customer against a single order.

Consistency — The viscosity or solidness of a semisolid or syrupy substance. It may be called the resistance to deformation. That property of a material by which it resists deformation or permanent change of shape.

Construction — The number of warp ends and filling picks per centimetre. In the larger sense the term implies to weave, threads per centimetre, yarn count, weight per metre and width.

Continuous Sheetin~~g~~ — A sheeting made by a process that does not limit its length.

Copolymer — See Polymer.

Cord — The product formed by twisting together two or more plied yarns.

Core — The central tube on which the tape is wound.

Count

a) An expression of linear density. Two groups of systems are in current use:

1) Direct yarn counts, based on mass per unit length, are proportional to the linear density.

$$\text{Direct yarn number} = \frac{\text{mass of yarn specimen}}{\text{length of yarn specimen}}$$

Example :

When the mass is expressed in grams and the length in kilometres, the resulting value is in tex units.

- 2) Indirect yarn counts, based on length per unit mass, are inversely proportional to the linear density.

$$\text{Indirect yarn number} = \frac{\text{length of yarn specimen}}{\text{mass of yarn specimen}}$$

- b) Number of warp yarns and weft yarns per unit length in a woven fabric.

Course — The row of stitches across the knitted fabric and corresponding to the fillings in woven fabrics.

Crack — A narrow streak running parallel to the warp or weft yarns due to pronounced opening between two adjacent yarns (*see Fig. 2*) (*see also Reed Mark*).

Crater — As applied to a defect, a small shallow surface imperfection.

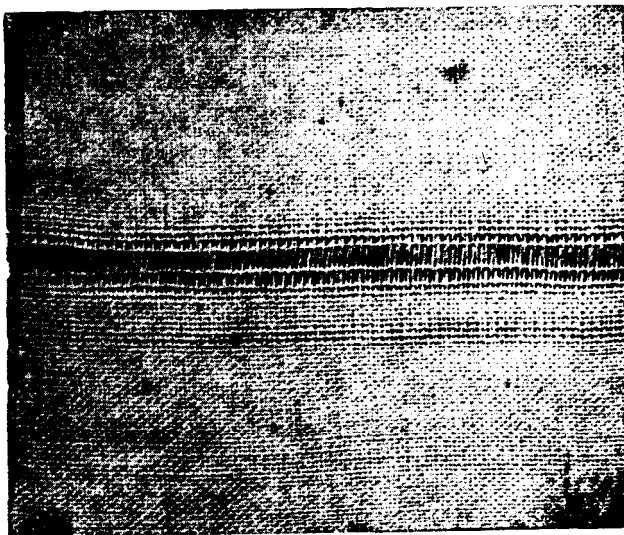


FIG. 2 CRACK

Crease — A fabric deformation, usually a long sharp fold either desirable or undesirable.

Crepe — A fabric, characterized by crinkled, puckered or pebbly surface, with highly twisted yarns in the weft or warp or both.

Crepe Back Satin — A fabric characterized by a sateen weave on the face and crepe on the back.

Crosswise — The direction 90° to the lengthwise direction (*see* Lengthwise).

Cure — The process of setting resins on coated fabrics.

Cut Weft — A defect caused by the use of weak weft with a strong warp, showing as pin holes in the finished fabric.

D

Defective Selvedge — A general term covering a number of specific defects as under:

- a) *Bad Dyeing or Printing on the Selvedge*
- b) *Curled Selvedge (Rolled Selvedge)* — Turned over selvedge.
- c) *Torn Selvedge (Burst Selvedge or Cut Selvedge)* — Selvedge with cuts or tears (*see* Fig. 3).
- d) *Distorted Selvedge* — A selvedge which does not vary in width but which is not straight.
- e) *Loopy Selvedge* — Selvedge with irregular weft loops extending beyond it (*see* Fig. 4).
- f) *Pulled-in Selvedge* — Selvedge with edges pulled-in.
- g) *Rugged or Ragged Selvedge* — A wavy selvedge showing indentations or corrugation at the edges.
- h) *Scalloped Selvedge* — An abrupt narrow place in the selvedge of the finished cloth.
- j) *Slack Selvedge* — A selvedge that is slacker than the body of the fabric. This may cause cut, torn or burst selvedges during subsequent processing (*see* Fig. 5).
- k) *Tight Selvedge* — A selvedge that is tighter than the body of the fabric. This may cause cut, torn or burst selvedges during subsequent processing.
- m) *Uneven Selvedge* — Selvedge which varies in width.

Deformation — A change in the shape of specimen, for example, change in length, produced as a result of the application of a load. Deformation may be immediate or delayed, and it may be recoverable or non-recoverable.

Degradation — A deleterious change in a polymer.

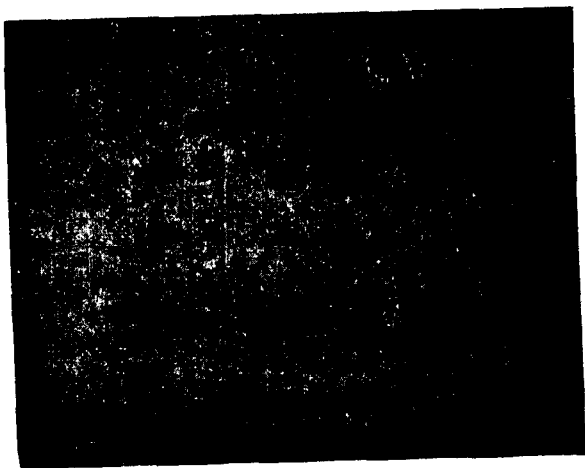


FIG. 3 TORN SELVEDGE

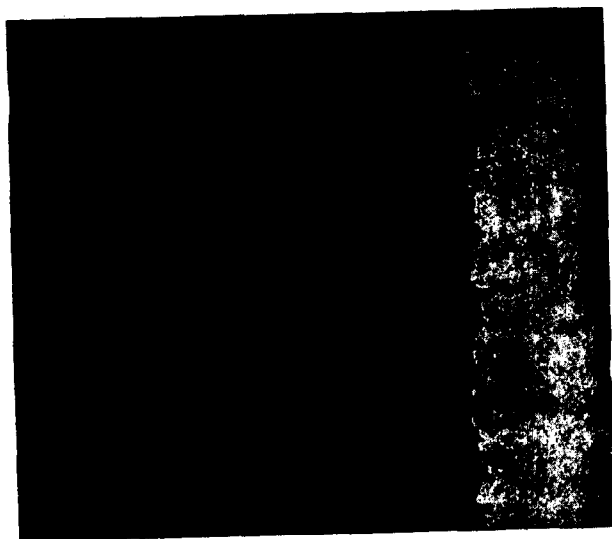


FIG. 4 LOOPY SELVEDGE

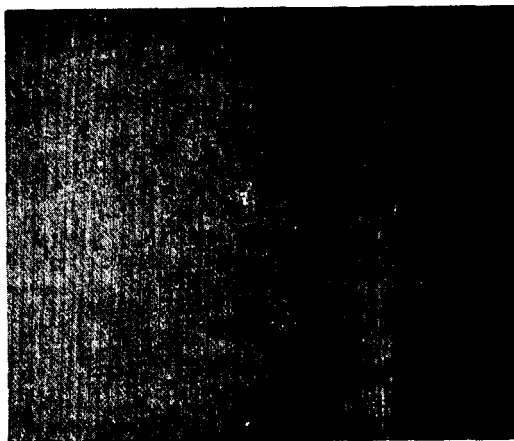


FIG. 5 SLACK SELVEDGE

Delamination — The separation or splitting, usually due to defective coating on treated fabrics.

Denier — The number of unit weights of 0.05 g per 450 m length of raw silk or continuous filament rayon or synthetic fibre yarn.

NOTE — Numerically it is equal to the number of grams per 9 000' m.

Density — The mass per unit volume. It is preferably expressed as grams per cubic centimetre.

Density, Linear — The mass per unit length. It is usually expressed as gram per kilometre for yarns.

Deterioration — A permanent change in the physical properties of a material evidenced by impairment of these properties.

Dielectric Constant — The ratio of the capacitance of a condenser having the material as dielectric to the capacity of the same condenser having vacuum as dielectric. The dielectric constant of a vacuum is unity; for all practical purposes air at ordinary pressures has the same value and may be substituted for the vacuum.

Dielectric Strength — The voltage per unit thickness of the dielectric required to cause puncture when the electrodes are in contact with the material and the voltage is increased at a specified rate.

Diluent — In an organosol, a liquid component which has little or no solvating action on the resin, its purpose being to modify the action of the dispersant.

Dispersion — A heterogeneous system in which a finely divided material is distributed in a matrix of another material. In plastics technology, a dispersion is usually the distribution of a finely divided solid in a liquid or a solid; for example, (a) pigments or fillers in moulded plastics, (b) plastisols or (c) organosols.

Doctor Blade — A bar attached to a coating machine to spread a coating evenly and to control the thickness of the coating.

Dope — A semi-fluid composition used for proofing.

Double Jersey — A fabric with fine ribs structures made on a machine having two beds of needles, each part knitting independently of the other.

Double Texture Rubberized Fabric — The base fabric treated with rubber composition and laminated together.

Dough — See Dope.

Drill — A warp faced twill weave fabric commonly in 3/1 or 2/1 twill weave.

Duck — A closely-woven, plainweave, strong, heavy, balanced cloth. It is used for purposes, such as sails, footwear linings, tarpaulins and tent cloth.

E

Edgewise (of a Laminate) — Parallel to the layers of a laminate; a direction in which a load or electric stress may be applied in testing laminated sheets.

Effective Width — See Usable Width.

Electric Strength — See Dielectric Strength.

Elongation — The increase in length of a specimen under tension; it is usually expressed as a percentage of the original length.

Embossing — A process by which a fabric is pressed between engraved rolls to give a raised pattern.

Ends — The warp threads of a fabric.

Extensibility — The property by virtue of which a material can undergo extension or elongation following the application of sufficient force.

F

Fabric — A term which covers all types of cloth or cloth-like textile materials independent of construction, method of manufacture, or nature of the material used.

Face — The coated side of a fabric or cloth. The better appearance coated side in case of fabric coated on both sides.

Fastness (Colour) — The resistance of the colour of textile materials to different processes and agencies to which they may be subjected during testing or manufacture and subsequent use.

Feel — The feel of a cloth when handled, for example, harsh, soft, rough, smooth, silky or stiff.

Felt — A textile fabric characterized by the densely matted condition of most or all of the fibres of which it is composed.

Fibre — Any type of filament of natural or synthetic origin characterized by flexibility, fineness and high ratio of length to thickness (from which generally yarns and fabrics are manufactured).

Fibre Length — The extent of the fibre in the lengthwise direction.

Fibre Show — The strands or bundles of fibres which are not covered by coating material and which are at or above the surface of a reinforced material.

Fibre Strength — The average breaking load of a single fibre.

Filler — A non-fibrous material, such as insoluble clay or gypsum, together with starches, gums, etc, added to a fabric to increase its mass or to modify the appearance or handle of the fabric; also referred to as back-sizing.

Fire-Resistant Fabric — A fabric treated with special agents to make them resistant to fire as measured in terms of 'time of withstanding a standard test temperature' and having self-extinguishing property.

Fish Eye — Small globular mass which has not blended completely into the surrounding material, particularly evident in a transparent or translucent material.

Flake — Separation of coating in small thin bits from the fabric.

Flatwise (of a Laminate) — Perpendicular to the layers of a laminate; a direction in which a load or electric stress may be applied in testing laminated sheets.

Flex Cracking — A cracked condition of the surface of treated fabric, such as leather cloth, resulting from constantly repeated bending or flexing.

Flexibility

- a) The ease of bending of a fabric ranging from pliable (high) to stiff (low).
- b) In the case of a fibre, it is the ability to be deformed without rupture or fracture.

Float — A portion of warp or weft yarn which passes over two or more weft or warp yarns respectively.

Full Width — The perpendicular distance between the two selvages of treated fabrics.

Fusion — In vinyl dispersions, the heating of a dispersion to produce a homogeneous mixture. There is an apparent mutual solvation of the resin and plasticizer.

Fusion Temperature (Fluxing Temperature) — In vinyl dispersions the temperature at which fusion occurs.

G

Gaberdine — A firm, tightly woven, steep-twill fabric characterized by diagonal ribs distinguished by appreciably more ends than picks.

Gauge — A term specifying the physical dimensions, usually thickness of fabrics.

Gauze Cloth — A term applied to a thin, open mesh, loosely woven fabric in plain or leno weave.

Gel

- a) A semisolid system consisting of a network of solid aggregates, in which liquid is held.
- b) The initial jelly-like solid phase which develops during the formation of a resin from a liquid.

Both types of gel have very low strengths and do not flow like a liquid. They are soft and flexible and will rupture under their own weight unless supported externally.

Gelation

- a) The formation of gel.
- b) In vinyl dispersions, the formation of gel in the early stages of fusion.

Glaze — The smooth, glossy and plane appearance of the surface of a fabric produced by the application of heat, heavy pressure or friction.

Glaze Finish — The smooth, lustrous finish on the face side of the treated fabric.

Gloss — The degree to which a surface approaches perfect optical smoothness in its capacity to reflect light.

Glue Spread — The mass of glue in a glue line per unit area of surface. It is normally expressed in g/m^2 .

Gout — Foreign matter, usually lint or waste, accidentally woven into a fabric (see Fig. 6).

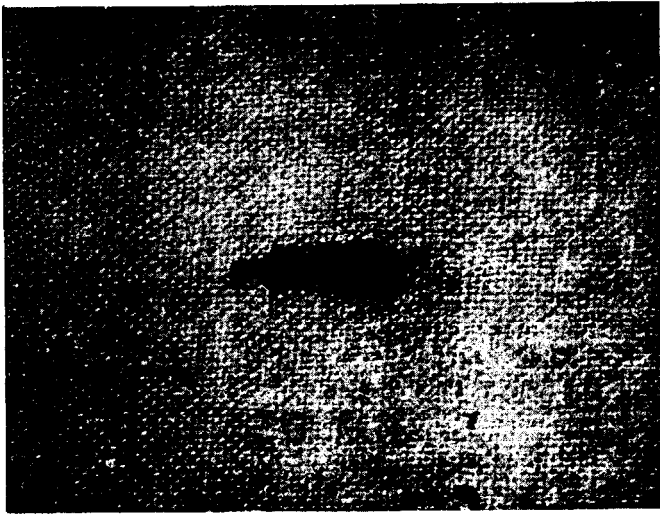


FIG. 6 GOUT

Grey Cloth — A cloth in the loom state before it is scoured, bleached or dyed.

Gunny — A general term applied to manufactured jute goods.

H

Heat Sealing — A method of joining plastic film by simultaneous application of heat and pressure to the area in contact.

Hessian — A fabric of plain weave made from single jute yarn of approximately the same count [from 241 to 344 tex (or 7 to 10 grist) for ordinary hessian and 172 to 211 tex (or 5 to 6 grist) for finer hessian] and weighing from 150 to 370 g/m^2 . It is normally used as packing material.

I

Impregnated Fabric — A fabric in which yarn is completely or partially filled with impregnating compound throughout the thickness of the material.

Industrial Fabric

- a) A variety of fabric used in various mechanical processes.
- b) The fabrics which are processed or treated so as to form part of another product as treated fabric or oil cloth.

Insulation Resistance — The resistance offered by an insulating material to an impressed direct voltage determined by measuring the small leakage current which flows through the insulating material.

J

Jean — A heavy cotton jean made with a highly finished, twilled face woven with 2/1 twill.

K

Khaddar (Khadi) — An Indian term for fabric woven on handlooms from handspun yarn of cotton, silk, wool fibres or a blend of two or more such fibres.

Knitted Fabric — A fabric made with only one series of continuous threads instead of two as in woven fabric and in which the threads are inter-looped.

L

Lacquer — A solution of natural or synthetic resin in readily evaporating solvents, which is used as a protective coating.

Laminated — The process of bonding two or more layers of materials.

Laminated Sheet — A sheet consisting of superimposed layers of paper, fabric, veneer or felt (mat) that have been substantially impregnated with a thermosetting or curable resin and bonded together under pressure, with or without heat, to form a single piece. Other ingredients, such as colouring matter, may be incorporated.

Lap — A sheet of fibres or cloth wrapped round a core with specific applications in different sections of the trade.

Lawn — A light weight cotton fabric in plain weave, bleached, dyed, or printed and given a crisp starch finish.

Leather Cloth — A cloth coated with natural or synthetic polymer material. The fabric may be coated and embossed on one or both sides.

NOTE — The term was formerly applied to various types of coated fabrics which simulated the appearance and feel of leather.

Length, Breaking — See Breaking Length.

Lengthwise — A direction optionally specified or selected, such as (a) the longer direction of the sample; (b) the machine direction, that is, the direction in which the material is formed and travels in or on the machine during the process of manufacture; (c) the direction in which the sample is known to be stronger in a designated property; and (d) a direction arbitrarily selected particularly when the property to be measured is expected to be uniform in the plane of measurement.

Linear Density — See Density, Linear.

Long Cloth — A soft light weight bleached cotton fabric in plain weave.

Luster (Lustre) — That property of a textile material by virtue of which the latter exhibits differences in intensity of light reflected from within a given area of material when the angles of illumination or weaving are changed.

M

Matt Finish — The smooth, dull finish on the face side of the treated fabric.

Matting-Jute — A jute floor covering fabric woven in plain, striped, dobby or jacquard designs.

Mechanical Adhesion — An adhesion between surfaces in which the adhesion holds the parts together by interlocking action.

Mechanical Fabric — A class of heavy fabrics used in various industries, such as sheeting for the laundry trade and duck for tent.

Mesh — The opening or space between the threads of a net or fabric.

Migration — The transfer of a material from a plastic to another solid in contact with it.

Migration of Plasticizer — The loss of plasticizer from a polymer compound with subsequent absorption by an adjacent medium.

Mildew — A superficial fungal growth on a heavily sized textile material or sizing material.

Mildew Resistant — A fabric treated to resist the growth of mildew and mould.

Missing End — A narrow warpwise void in a fabric caused by breakage of warp yarn(s) during weaving.

Missing Pick — A pick which is missing from one selvedge to the other.

Mixed Weft — A band in fabric running weftwise with an appearance different from the appearance of the rest of the fabric.

Moisture Content — The amount of moisture in a material determined under prescribed condition and expressed as a percentage of the weight of the moist material.

Moisture Free — The condition of a material that has been exposed in an atmosphere of desiccated air until there is no further significant change in its mass.

Moisture Regain — The amount of moisture in a material determined under prescribed conditions and expressed as a percentage of the weight of the moisture free specimen.

Monomer — A relatively simple chemical which can react to form a polymer.

N

Naps (Cotton) — The small aggregates of loosely entangled cotton fibres. They are comparatively easy to remove from cotton and generally their individual fibres can be easily separated. They are larger than neps.

Necking — The localized reduction in cross section which may occur in a material under tensile stress.

Neps — The small knot-like aggregates of tightly entangled cotton fibres usually not larger than a common pin-head, which are difficult to remove from cotton and from which the individual fibres are generally difficult to be separated.

Nip — The line of tangency between two rolls in contact with one another, or between either of the rolls and the surface of an object passing between them.

O

Oil Cloth (Oiled Fabric) — A thin fabric soaked in drying oil and dried to make it waterproof.

Open Assembly Time (in Adhesive Bonding) — The time during which adhesive coated surfaces are exposed in air before being brought into contact.

Orange Peel — As applied to a defect, the uneven surface somewhat resembling an orange peel.

Organosol — A suspension of a finely divided polymer in a plasticizer, together with a volatile organic liquid.

Oven Dry — The condition of material that has been heated under prescribed conditions of temperature and humidity until there is no further significant change in its mass.

Oxford Weave — A fabric with basket weave, usually made in two colour effects.

P

Parachute Fabric — A fabric used in making parachutes which are used in man-dropping or supply-dropping purposes.

Parallel Laminated — Pertaining to a laminate in which all the layers of material are oriented approximately parallel with respect to the grain or strongest direction in tension.

Paulins — The short for tarpaulins or comparable type of treated fabric coverings.

Pebble Texture — The irregular or rough surface texture of a fabric. The term is often used for the brinkled appearance of a creped fabric.

Permanent Set — *See* Set.

Permeability — The rate of flow of fluid, vapour or gas under a differential pressure through a material.

Pick (Count) Glass — A magnifying glass with gauzed aperture used for counting ends and picks of fabrics.

Picks — The weft or filling yarn which lies across the length of a fabric.

Pick-Up — The weight of a proofing composition retained by the fabric.

Pimple — As applied to a defect, an undesirable small conical elevation on the surface (*see also* Blister).

Pinhole — A tiny hole in the surface of, or through, a material.

Plain Weave — *See* Weave, Plain.

Plasticity — The tendency of a material to remain deformed after reduction of the deforming stress to or below its yield stress.

Plasticize — To soften by addition of plasticizer.

Plasticizer — A substance of low volatility incorporated in a plastic material to increase its flexibility or extensibility or ease of processing.

Plastigel — A gel like suspension of a finely divided polymer in a plasticizer.

Plastisol — A suspension of polymer in liquid plasticizer.

Platen — A plate which transmits pressure to a mould or laminate assembly.

Polymer — A compound formed by the reaction of simple molecules having functional groups that permit their combination to proceed to high

molecular weights under suitable conditions. Polymers may be formed by polymerization (addition polymer) or polycondensation (condensation polymer). When two or more different monomers are involved, the product is called a copolymer.

Poplin — A light weight, firm, cross-ribbed fabric in plain weave. The rib effect is obtained by coarser yarn in the weft than in a warp or by using a preponderance of warp threads or both.

Porous — The presence of numerous minute voids on treated fabrics.

Porosity — The ratio of the volume of air or void contained within the boundaries of a material to the total volume (solid matter plus air or void) expressed as a percentage:

$$\text{Porosity} = \frac{V_v \times 100}{V_t}$$

where

V_v = volume of voids, and
 V_t = total volume.

Primer — A coating applied to a surface, prior to the application of an adhesive, lacquer, enamel, etc, to improve the performance of the bond.

Printing — A process of enhancing the appearance of cloth by application of colours, pigments or flocks on cloth to produce ornamental designs or special effects.

Proofing — The process of treated fabrics to render them resistant to water, fire, micro-organism, etc.

Pulled Surface — As applied to a defect, imperfections in the surface of a laminated polymeric material ranging from a slight breaking or lifting of its surface in spots to pronounced separation of its surface from its body.

R

Reed Mark — A pronounced warp-way crack in a woven fabric caused by a damage or defective reed (see Fig. 7) (see also Crack).

Reel — A material in roll form when the width is less than 100 mm.

Relative Humidity — The ratio of the actual pressure of the water vapour in the atmosphere to the saturation vapour pressure at the same temperature. The ratio is usually expressed as percentage.

Relative Permittivity — See Dielectric Constant.

Resilience — The property of a material by virtue of which it is able to return to the original state from its deformed state.



FIG. 7 REED MARK

Resin — A solid, semisolid or pseudosolid organic material that has an indefinite and often high molecular weight, exhibiting a tendency to flow when subjected to stress, usually has a softening or melting range and fractures conchoidally. In a broad sense the term is used to designate any polymer that is a basic material for plastics.

Resistivity (Electrical) — The resistance of a unit cube of a material to the passage of current between two opposite faces. It is measured in ohm-centimetres.

Roll — A material in roll form when the width is more than 100 mm.

Roofing Felt — A needled felt impregnated with bitumen emulsion and dusted with talcum powder or other anti-tack materials.

Rubberized Fabric — A fabric treated with composition based on natural or synthetic rubber.

S

Saran — A man-made fibre composed of copolymers of vinylidene and vinyl chloride.

Sateen — A fabric with a lustrous surface obtained by a sateen weave with weft floats.

Satin — A fabric with a lustrous surface, obtained by a satin weave with warp floats.

Scouring

- a) *General* — A process of cleaning fibre, yarn or fabric of impurities.
- b) *Silk* — A process of removing natural gum from silk goods and yarns by boiling in soap solution; also known as 'degumming'.

Seamless Fabric — A tubular knit fabric without seams.

Selvedges (or Selvages) — The longitudinal edges of a fabric formed in such a way that its component threads cannot ravel.

Set — The strain remaining after complete release of the load producing the deformation.

NOTE — Due to practical consideration, such as distortion in the specimen and slack in the strain indicating system, measurements of strain at a small load rather than zero load are often taken. Set is often referred to as permanent set if it shows no further significant change with time. Time elapsing between removal of load and final reading of set should be stated.

Setting Time — The time taken for a material to harden sufficiently for curing.

Sewn Bias-Cut — A bias-cut material in short lengths sewn together before or after varnishing to form a continuous length.

Shantoon — A plain weave fabric with a slubbed or nubbed texture originally made from yarns of tussar silk in which the natural yarn irregularities have been retained. Now-a-days other fibres are used and the yarn irregularities are simulated.

Shrinkage — The reduction in width or length or both, that takes place in a treated fabric when it is washed or dry cleaned. 'Residual shrinkage' is the percentage of shrinkage that remains in the treated fabrics after it has been subjected to a shrinkage process. Shrinkage that may occur on subsequent washing is the 'progressive shrinkage'.

Singeing — A process of burning off protruding fibres from the surface of fabric to obtain a smooth surface.

Single Texture Rubberized Fabric — The fabric coated on one or both side with rubber composition.

Size — A colloidal solution of materials, such as starch and glue, which is generally applied when hot before weaving and which when cold forms a film. It strengthens and stiffens the warp.

Sizing — A process of applying size to the warp.

Slitter — A machine for cutting continuous film or sheeting into narrower units.

Smash — In coated fabric, a damaged area where the coating is missing or ruptured.

Specimen — A piece or portion of a sample used to make a test.

NOTE — Specific tests usually require test specimens of specific shape and dimensions.

Spinning

a) *General* — The process or processes for producing single yarn.

b) *Silk*

1) The process of making yarn out of discontinuous filament of silk.

2) An operation by which silk worm produce cocoons.

Spread — The quantity of adhesive per unit joint area applied to an adherent. It may be expressed in kilos of liquid or solid adhesive per hundred square metres of joint area. Single spread refers to application of adhesive to one adherent of a joint. Double spread refers to application of adhesive to both adherents of a joint.

Spreader — A device or machine to cover a surface with a desired amount of fluid materials, for example, adhesives or coating materials.

Staining — A process of colouring fibres with different colours for the purpose of identifying them.

Staple — A comprehensive term to include length, fineness, drag, etc, of fibres.

Static — Accumulation of electrostatic charge on fibres, yarns or fabrics when they rub against each other or against the insulated parts of the processing machinery.

Stiffness — A relationship of load and deformation; a term often used when the relationship of stress and strain does not conform to the definition of Young's modulus.

Straight-Cut — A material cut so that one set of threads (usually the warp) is parallel with the edges and the other set at right angles.

Strain — The unit change due to force in the size of a body referred to its original size.

Strand — A single fibre, filament or monofilament, or a single ordered assembly of textile fibres having a high ratio of length to diameter and normally used as a unit including slivers, rovings, single yarns, plied yarns, cords, braids, ropes, etc.

Streak — The longitudinal line or lines caused by the undispersed material, such as pigment, resin or filler, on a treated fabric during processing.

Strength — The ability of a material to resist strain or rupture induced by external forces.

Stress — The resultant initial resistance to deformation developed within a specimen subjected to an external force; for example, tensile, shear and compressive stresses.

Stress Crack — An external or internal crack in a rubberized material caused by stresses less than its ultimate strength.

NOTE — The development of such cracks is frequently accelerated by the environment to which the material is exposed. The stresses which cause cracking may be present internally or externally or may be combinations of these stresses.

Stress-Strain Curve — A diagram in which corresponding values of stress and strain are plotted against each other.

NOTE — The values of stress are usually plotted as ordinates (vertically) and values of strain as abscissas (horizontally).

Stretch — A physical change accompanied by an increase in dimension.

Surface Resistivity — The surface resistivity of a material is the quotient obtained when the potential gradient parallel to the direction of the current flow along its surface is divided by the current per unit width of surface.

NOTE — Surface resistivity of a material is equal to the surface resistance between two electrodes forming opposite sides of a square. The size of the square is immaterial.

T

Taffeta — A closely woven, smooth, crisp fabric in plain weave or its derivative in which the warp and weft yarns are of the same or nearly the same count.

Take-Off — A device for conveying extruded or calendered material away from the machine.

Take-Up — A device to wind extruded or calendered material.

Tape — A woven narrow fabric not exceeding 100 mm in width.

Tarpaulin — A made-up article, such as wagon cover, usually made of tarpauling or other heavy cloth.

Tarpauling — A double warp single weft cloth in plain weave and in construction finer than bagging, but coarser than canvas.

Tearing Strength — The force required to start or continue a tear in a fabric under specified conditions.

Tensile Strength — The maximum tensile load sustained by the test specimen under prescribed conditions divided by the original cross-sectional area of the specimen.

Tent Cloth — A duck or other varieties of heavy waterproofed cloth used in the fabrication of tents.

Tex — The primary unit in a system of units for expressing the universal count of yarn, the mass in grams of one kilometre of yarn.

NOTE — This system is also intended to be used for expressing the weight per unit length of fibres and other textile products like ropes, rovings, etc, and is to be used in place of all other systems previously used for such purposes. The following multiple and submultiple units may be used to avoid large numbers and small fractions, respectively:

1 ktex (kilotex) = 1 000 tex
1 mtex (millitex) = 0.001 tex

Thermoforming — A forming with the aid of heat.

Thermoplastic — Capable of being repeatedly softened by increase of temperature and hardened by decrease of temperature. Thermoplastic applies to those materials whose change upon heating is substantially physical rather than chemical.

Thickener — A substance that increases the viscosity of a fluid.

Thread — The result of twisting together in one or more operation, two or more single, folded, or cabled yarns.

NOTE 1 — The term is frequently used to describe single yarns.

NOTE 2 — In the natural silk industry, thread is used as a synonym of fold, for example, 3 thread 13/15 denier yarn.

Tinting — The colouring of fibres and yarns with fugitive colours to permit of easy distinction.

Tolerance — The prescribed limits for specific properties of a particular material.

Tracing Cloth — A very fine plain-weave cotton fabric treated in a special manner to make it suitable for use for tracings.

Transverse — In winding or reeling the movement of an end or ends parallel to the axis of rotation, which spaces the turns across the yarn package.

Treated Fabric — A fabric which has been treated with chemicals to get a desired effect like waterproof, fireproof, opacity, etc.

Tube

- a) A holder or bobbin of cylindrical shape used as a core for a yarn package of cylindrical form.
- b) A cylindrical yarn package formed by winding on a tube.

Tweed — A medium to heavy weight woollen fabric in twill weave, with rough unfinished appearance, but soft and flexible in texture, used for suits, coats, etc. It is usually featured by soft, broken effects of colour attained by blends; also made in plain colours and in checks and plains.

Twills — A fabric with a weave repeating on three or more ends and picks and producing diagonal lines on the face of the fabric.

Twill Weave — A weave that produces diagonal lines on the surface of the cloth.

Twine — A product used primarily for tying, made by twisting fibres into rovings, yarns, threads, or strands, or by twisting multiples of any one of these into a unit.

U

Ultimate Elongation — *See* Elongation.

Under Cure — A condition that arises when insufficient time or temperature or both has been allowed for adequate cure (*see* Cure).

Uneven Dyeing — A fabric which shows variation in shade throughout the piece at regular or irregular intervals.

Unevenness — The non-uniformity of the linear density of a continuous strand or portion of a strand.

Usable Width — The width of a material which is coated and finished uniformly and in such a manner that the cloth backing is not visible through the coating unless the coating is intended to be translucent or discontinuous.

V

Varnished Cotton Cloth — The cotton cloth treated with varnish.

Vinyl Plastics — Plastics based on resins made from vinyl monomers, except those specifically covered by other classifications, such as acrylic and styrene plastics. Typical vinyl plastics are polyvinyl chloride, polyvinyl acetate, or polyvinyl butyral, and copolymers of vinyl monomers with unsaturated compounds.

Volume Resistivity — The volume resistivity of a material is the quotient obtained when the potential gradient parallel to the direction of the current flow in the material is divided by the current density.

W

Wale — A series of loops in the lengthwise direction of a knitted fabric, formed by one needle.

Warp

- a) The threads lengthways in a fabric as woven.
- b) A number of threads in long lengths and running in the same direction intended for weaving or knitting.

Waterproofing — To treat the fabric with materials, such as waxes, insoluble soaps, rubber or other materials, to render it impervious to water.

Water Repellant — A term describing any treatment which prevents the immediate wetting of a fabric by water.

Wavy Cloth — A cloth that does not lie flat on a cutting table (*see also* 'Cockling').

Weathering — The exposure of materials to outdoors.

Weathering, Artificial — The exposure of plastics to cyclic laboratory conditions comprising high and low temperatures, high and low relative humidities, and ultraviolet radiant energy, with or without direct water spray, in an attempt to produce changes in their properties similar to those observed on long time continuous exposure outdoors. The laboratory exposure conditions are usually intensified beyond those encountered in actual outdoor exposure in an attempt to achieve an accelerated effect.

Weave, Plain — A fabric pattern in which each yarn of the filling passes alternately over and under a yarn of warp and each yarn of the warp passes alternately over and under a yarn of the filling.

Weave, Twill — *See* Twill Weave.

Weft

- a) The transverse threads in a woven fabric.
- b) Those fibres running perpendicular to the warp.

Wrinkle — A surface imperfection that has the appearance of a crease in the surface layer or other base which has been pressed in.

TO

IS : 2244 - 1972 GLOSSARY OF TERMS RELATING
TO TREATED FABRICS

(*First Revision*)

Alterations

(*Page 6, Coated Fabric*) — Substitute the following for the existing matter:

'Coated Fabric — A fabric with an adherent layer or layers of material on one or both surfaces resulting in a single product.'

(*Page 6, Coating*) — Substitute the following for the existing matter:

'Coating

a) Coating is a process of applying composition in liquid, paste or powder form upon a fabric.

b) Coating is layer(s) of material applied on a fabric.'

(*Page 16, Laminated*) — Delete.

(*Page 16, Laminated Sheet*) — Substitute the following for the existing matter:

'Lamination — The process of bonding two or more layers of materials.'

(*Page 25, Treated Fabric*) — Substitute the following for the existing matter:

'Treated Fabric — A fabric which has been treated with a substance or substances to get a desired characteristic.'

Addendum

(*Page 15, Impregnated Fabric*) — Add the following new term after 'Impregnated Fabric':

'Impregnation — Impregnation is a process by which a substance in the fluid form is applied on to a fabric. The substance penetrates wholly or partially the interstices and pores of the fabric.'